DOCUMENT RESUME

ED 352 986 IR 054 338

TITLE	Establishing a National Policy on Permanent Papers. Report To Accompany House Joint Resolution 226. House of Representatives, 101st Congress, 2d Session.
INSTITUTION	Congress of the U. S., Washington, D. C. House Committee on Government Operations.
REPORT NO	House-R-101-680-Pt-1
PUB DATE	Aug 90
NOTE	10p.
PUB TYPE	Legal/Legislative/Regulatory Materials (090) -- Viewpoints (Opinion/Position Papers, Essays, etc.) (120)
EDRS PRICE	MF01/PC01 Plus Postage.
DESCRIPTORS	Federal Legislation; *Government Publications; Microreproduction; Paper (Material); *Preservation; *Public Policy
IDENTIFIERS	*Acid Free Paper; Congress 101st

ABSTRACT

This report contains amendments to House Joint Resolution 226 to establish a national policy on permanent papers proposed by the House Committee on Government Operations. The main purpose of the legislation is to establish a formal policy that federal records, books, and publications of enduring value be produced on acid free permanent papers. The report presents a discussion of the problem and alternative solutions, including the use of acid free papers, microfilming deteriorating documents, and bulk deacidification of books. The report also provides a section-by-section analysis of the amended legislation, including five urgent congressional recommendations: (1) federal agencies should require the use of acid free permanent papers for publications of enduring value produced by the Government Printing Office or by federal grant or contract; (2) federal agencies should require the use of archival quality acid free papers for permanently valuable records; (3) American publishers and state and local governments should use acid free papers for publications of enduring value; (4) both private and governmental publishers should prominently note the use of acid free paper, and federal officials should make known the national policy on acid free papers to foreign governments and international agencies. (KRN)

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101ST CONGRESS
2d Session

HOUSE OF REPRESENTATIVES

REPT. 101-680
Part 1

ESTABLISHING A NATIONAL POLICY ON PERMANENT PAPERS

AUGUST 22, 1990.—Ordered to be printed

Mr. CONYERS, from the Committee on Government Operations, submitted the following

REPORT

[To accompany House Joint Resolution which on March 23, 1989, was referred jointly to the Committee on Government Operations and the Committee on House Administration]

[Including cost estimate of the Congressional Budget Office]

The Committee on Government Operations, to whom was referred the joint resolution (House Joint Resolution 226) to establish a national policy on permanent papers, having considered the same, report favorably thereon with amendments and recommend that the joint resolution as amended do pass.

The amendments are as follows:

Strike out all after the resolving clause and insert in lieu thereof the following:

SECTION 1. It is the policy of the United States that Federal records, books, and publications of enduring value be produced on acid free permanent papers.

SEC. 2. The Congress of the United States urgently recommends that—

(1) Federal agencies require the use of acid free permanent papers for publications of enduring value produced by the Government Printing Office or produced by Federal grant or contract, using the specifications for such paper established by the Joint Committee on Printing;

(2) Federal agencies require the use of archival quality acid free papers for permanently valuable Federal records and confer with the National Archives and Records Administration on the requirements for paper quality;

(3) American publishers and State and local governments use acid free permanent papers for publications of enduring value, in voluntary compliance with the American National Standard;

(4) all publishers, private and governmental, prominently note the use of acid free permanent paper in books, advertisements, catalogs, and standard bibliographic listings; and

(5) the Secretary of State, Librarian of Congress, Archivist of the United States, and other Federal officials make known the national policy regarding acid free permanent papers to foreign governments and appropriate interna-

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tional agencies since the acid paper problem is worldwide and essential foreign materials being imported by our libraries are printed on acid papers.

SEC. 3. The Librarian of Congress, the Archivist of the United States, and the Public Printer shall jointly monitor the Federal Government's progress in implementing the national policy declared in section 1 regarding acid free permanent papers and shall report to the Congress regarding such progress on December 31, 1991, December 31, 1993, and December 31, 1995. In carrying out the monitoring and reporting functions under this section, the Librarian of Congress, the Archivist of the United States, and the Public Printer may consult with the National Endowment for the Humanities, National Agricultural Library, National Library of Medicine, other Federal and State agencies, international organizations, private publishers, paper manufacturers, and other organizations with an interest in preservation of books and historical papers.

Amend the preamble to read as follows:

Whereas it is now widely recognized and scientifically demonstrated that the acidic papers commonly used for more than a century in documents, books, and other publications are self-destructing and will continue to self destruct;

Whereas Americans are facing the prospect of continuing to lose national, historical, scientific, and scholarly records, includng government records, faster than salvage efforts can be mounted despite the dedicated efforts of many libraries, archives, and agencies, such as the Library of Congress and the National Archives and Records Administration;

Whereas nationwide hundreds of millions of dollars will have to be spent by the Federal, State, and local governments and private institutions to salvage the most essential books and other materials in the libraries and archives of government, academic, and private institutions;

Whereas paper manufacturers can produce a sufficient supply of acid free permanent papers with a life of several hundred years, at prices competitive with acid papers, if publishers would specify the use of such papers, and some publishers and many university presses are already publishing on acid free permanent papers;

Whereas most Government agencies do not require the use of acid free permanent papers for appropriate Federal records and publications;

Whereas librarians, publishers, and other professional groups have urged the use of acid free permanent papers;

Whereas even when books are printed on acid free permanent paper this fact is often not made known to libraries by notations in the book or by notations in standard bibliographic listings; and

Whereas there is an urgent need to prevent the continuance of the acid paper problem in the future: Now, therefore, be it

EXPLANATION OF AMENDMENT

Inasmuch as all of the preamble and the text of H.J. Res. 226 was stricken and a new preamble and new text were incorporated, the contents of this report constitute an explanation of the amendment made by the Committee on Government Operations.

SUMMARY AND PURPOSE

The main purpose of the legislation is to establish a formal policy that federal records, books, and publications of enduring value be produced on acid free permanent papers. The joint resolution also requires a report by the Librarian of Congress, Archivist of the United States, and the Public Printer on the federal government's progress in implementing the policy on use of acid free permanent papers.

COMMITTEE ACTION AND VOTE

H.J. Res. 226 was introduced by Representative Pat Williams on March 23, 1989. The Committee on Government Operations unani-

mously ordered the joint resolution reported on August 2, 1990, by voice vote.

HEARINGS

On February 21, 1990, the Government Information, Justice, and Agriculture Subcommittee held a hearing on H.J. Res. 226. Witnesses were: Representative Pat Williams, sponsor of the resolution; Dr. James H. Billington, Librarian of Congress; Dr. Don Wilson, Archivist of the United States; and Lawrence Hughes, Chairman, American Association of Publishers.

Statements for the record supporting H.J. Res. 226 were received from: Dr. Susan K. Martin, Executive Director, National Commission on Libraries and Information Science; Ann Russell, Executive Director, Northeast Document Conservation Center, Andover, Mass.; Gregor Trinkaus-Randall, Collection Management Consultant, Commonwealth of Massachusetts Board of Library Commissioners, Boston, Mass.; Barbara Goldsmith, New York Public Library Trustee and Chair of the NYPL Permanent Paper Committee, New York, N.Y.; Eileen D. Cooke, Director, Washington Office, American Library Association, Washington, D.C.; Dr. Timothy S. Healy, President, New York Public Library, New York, N.Y.; John A. Fleckner, President, The Society of American Archivists, Chicago, Ill.

DISCUSSION[1]

The ability to preserve and use books depends in part on the type of paper used to print the books. There are many examples of books published as far back as the 1500s that are still in fine condition. However, the ability of paper to maintain durability over time has declined with changes in paper making technology. Papers made since the mid-19th century may last only 50 years.

The rapid deterioration of modern paper is attributed to acids that accumulate in the paper during manufacturing. One source of the acids are chemicals that are used during the paper making process. In the mid-19th century, the rags and linen that were used to produce paper were replaced by wood pulp as the major cellulose feedstock.

Acidic solutions were used in order to overcome the shortcomings of wood pulp. The acids attack the cellulose that makes up paper, breaking it into smaller and smaller pieces until the paper has lost all of its durability. Paper produced since the mid-19th century can have an acid content 100 times greater than paper produced in the 1500s.

A 1959 survey of books published in the United States found that 39% of books published between 1900 and 1939 has already become very weak. The pages would crack after moderate use and would probably become too brittle to handle at all in another 25 years.

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[1] See generally Office of Technology Assessment, *Book Preservation Technologies* (1988); *Preservation of Print:* Hearing before the Subcommittee on Science, Research and Technology of the House Committee on Science, Space, and Technology, 101st Cong., 1st Sess. (1989); American National Standards Institute, *American National Standard for Information Sciences—Permanence of Paper for Printed Library Materials* (1984) (ANSI Z39.48-1984).

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Another 49% of the books had a durability less than that of newsprint, the weakest paper used for printing.

The Association of Research Libraries estimates that nearly 80 million books in North American research libraries are threatened with destruction because they are printed on acidic paper. At least one-fourth of the collections of most major university and research libraries in the United States and Canada are in some stage of serious embrittlement. At the Library of Congress, 25 percent of the collection is already brittle, and over 77,000 volumes move to the brittle stage each year.

The deterioration of books represents a loss of the world's intellectual heritage and the record of civilization. There is a significant adverse effect on research and scholarship. Much of the history of the United States is recorded on paper printed since the 1850's. Some have compared the "slow burning" of books on the shelves of libraries to the burning of the library at Alexandria in ancient times.

There are a variety of solutions to the deterioration of books. The resolution focuses on use of acid free permanent papers.

1. Acid free permanent papers

Perhaps the most cost effective long term solution to deterioration of books is the use of acid free permanent papers. Publications printed on acid free permanent papers can be expected to last for centuries rather than decades. Book preservation problems due to paper deterioration will be postponed until far into the distant future for new books printed on permanent papers.

There are other aspects to preservation besides a switch from acidic to alkaline papers. Durability is also determined by fiber strength, folding endurance, resistance to tearing, and other technical properties of paper. As a result, all alkaline papers cannot be considered to be archival quality.[2]

Some books are currently printed on acid free permanent papers. American university presses use alkaline papers for the majority of their publications. Other American books and publications are more likely to be printed on acidic paper. According to an estimate for 1988, acidic paper accounted for about 70% of uncoated fine paper production.

The Joint Resolution is designed to increase awareness of the problems of paper deterioration and to encourage the use of acid free permanent papers both for federal publications and for privately printed publications as well. It appears that the paper industry is in the midst of its own transition to increased use of alkaline papers.

The American paper industry is increasing production of acid free paper. The paper industry has reported that there are economic, environmental, and marketing reasons for converting produc-

[2] The testimony of Don W. Wilson, Archivist of the United States, elaborated on how the preservation concerns of the National Archives differ from those of libraries. For example, alkaline paper can be made from recycled fibers. But the price may be higher and other characteristics of the paper—such as folding endurance—may be absent. The use of thicker paper to compensate for other shortcomings may exacerbate storage problems for the millions of documents maintained by the National Archives.

tion to acid free paper. There is evidence that the price of alkaline paper can be comparable to the price of acidic paper.

The Government Printing Office reports that supplies of alkaline papers have increased and that prices are now competitive. GPO has been able to produce acid free papers when requested by agencies and is encouraging use of acid free papers. Supply and demand will play the key role in determining the cost of paper, and changes can be expected as demand shifts and industry restructures its production.

Environmental impacts of alkaline paper are mixed. The economics of paper making—driven by the smaller environmental effects of alkaline paper production—is encouraging the paper industry to switch to alkaline paper. This appears to be a major cause of the production changes.

Since alkaline paper is slower to decompose, there may be an adverse effect on solid waste disposal. This effect will be small because printing and publishing uses a small percentage of total paper consumption.

2. Microfilming

When the paper in a document has deteriorated beyond the possibility of strengthening, the document can be microfilmed. This is a very expensive process, but it may be the only way to preserve the document in a useful form. Books that are microfilmed are then generally discarded as unusable. Libraries worldwide endeavor to exchange information on microfilming activities in order to avoid duplication of effort. The Library of Congress microfilms more than 20,000 books annually at a cost of more than $1,000,000.

The National Endowment for the Humanities has an Office of Preservation that offers support for projects designed to preserve books, serials, newspapers, journals, photographs, films, and the like. The Office has awarded more than 100 grants totalling $16 million for preservation activities. Recipients include state historical associations, research libraries, universities, and state and local agencies. NEH plans to raise funding to permit the microfilming of 175,000 volumes annually.

3. Bulk deacidification

Efforts have been underway for many years to develop a process that will remove the acid from books economically. The deacidification of individual books is possible but expensive. The Library of Congress has been a leader in developing bulk deacidification techniques. The process developed by the Library uses DEZ (diethylzinc). There are other techniques for bulk deacidification of books, including the Wei T'o process and the Bookkeeper process.

DEZ will permit the deacidification of hundreds of books at one time. Briefly described, the DEZ process entails removing moisture from books in a vacuum chamber, exposing the books to DEZ gas in a controlled environment, purging the DEZ gas, and restoring the moisture.

DEZ is a hazardous substance that must be handled carefully, and lapses during development resulted in an explosion in a pilot plant in 1986. The Office of Technology Assessment has concluded that the process appears to be workable, but that there are still re-

maining questions about the long term effect of DEZ and the extent to which book life will be extended.

The Library is in the process of trying to license the DEZ process to a commercial company. A commercial plant might be able to process one million books per year. The cost per book for deacidification through an operational DEZ plant are estimated to be between $3.50 and $5.00. OTA suggests that the costs are likely to be at the higher end of the range.

One expected use of bulk deacidification is the processing of new books in order to head off any deterioration. Increased use of acid free paper would avoid the need for deacidification and would permit scarce resources to be used for the deacidification of older books. The identification of books on alkaline paper can be difficult, and there are efforts to encourage the use of a symbol (an infinity sign in a circle) when alklaine paper has been used.

Finally, the deacidification of a book may not solve all of the preservation problems. A deacidified paper may still need to be strengthened in order to permit effective use. Techniques for strengthening books ar being developed. A recent report in the *New York Times* described a British technique using gamma rays.[3] A process that both strengthens and deacidifies books en masse would be highly desirable.

The widespread use of acid free permanent papers will preserve current books for many additional decades. Eventually, acid free permanent papers will reduce the need for microfilming or deacidification of books. While the benefits will not be realized for several decades, the savings at that time will be millions of dollars nationwide. Libraries throughout the United States will no longer find it necessary to spend scarce funds to preserve deteriorating books. Because the cost of acid free permanent papers is no higher than acidic papers, the net benefits will be positive even if the benefits are not realized for fifty years.

SECTION-BY-SECTION ANALYSIS

Preamble: The preamble to the joint resolution makes the following findings:

a. It is now widely recognized and scientifically demonstrated that the acidic papers commonly used for more than a century in documents, books, and other publications are self-destructing and will continue to self destruct.

b. Americans are facing the prospect of continuing to lose national, historical, scientific, and scholarly records, including government records, faster than salvage efforts can be mounted despite the dedicated efforts of many libraries, archives, and agencies, such as the Library of Congress and the National Archives and Records Administration.

c. Hundreds of millions of dollars will have to be spent by federal, state, and local governments and private institutions to salvage the most essential books and other materials in the libraries and archives of government, academic, and private institutions.

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[3] *New York Times* (Dec. 27, 1989).

d. Paper manufacturers can produce a sufficient supply of acid free permanent papers with a life of several hundred years, at prices competitive with acid papers, if publishers would specify the use of such papers, and some publishers and many university presses are already publishing on acid free permanent papers.

e. Most government agencies do not require the use of acid free permanent papers for appropriate federal records and publications.

f. Librarians, publishers, and other professional groups have urged the use of acid free permanent papers.

g. Even when books are printed on acid free permanent paper, this fact is often not made known to libraries by notations in the book or by notations in standard bibliographic listings.

h. There is an urgent need to prevent the continuance of the acid paper problem in the future.

Section 1: This section states that it is the policy of the United States that Federal records, books, and publications of enduring value be produced on acid free permanent papers.

Section 2: This section contains five urgent congressional recommendations:

1. Federal agencies should require the use of acid free permanent papers for publications of enduring value produced by the Government Printing Office or produced by federal grant or contract, using the specifications for such paper established by the Joint Committee on Printing.

2. Federal agencies should require the use of archival quality acid free papers for permanently valuable Federal records and should confer with the National Archives and Records Administration on the requirements for paper quality.

3. American publishers and State and local governments should use acid free permanent papers for publications of enduring value, in voluntary compliance with the American National Standard.

4. Publishers, private and governmental, should prominently note the use of acid free permanent paper in books, advertisements, catalogs, and standard bibliographic listings.

5. The Secretary of State, Librarian of Congress, Archivist of the United States, and other federal officials should make known the national policy regarding acid free permanent papers to foreign governments and appropriate international agencies since the acid paper problem is worldwide and essential foreign materials being imported by our libraries are printed on acid papers.

Section 3: The Librarian of Congress, the Archivist of the United States, and the Public Printer shall jointly monitor the federal government's progress in implementing the national policy declared in the first section of the joint resolution and shall report to the Congress regarding such progress. Reports are due on December 31, 1991, December 31, 1993, and December 31, 1995. In carrying out the monitoring and reporting functions under this section, the Librarian of Congress, the Archivist of the United States, and the Public Printer may consult with the National Endowment for the Humanities, National Agricultural Library, National Library of Medicine, other federal and state agencies, international organizations, private publishers, paper manufacturers, and other organizations with an interest in preservation of books and historical papers.

ESTIMATE OF THE CONGRESSIONAL BUDGET OFFICE

The following estimate prepared by the Congressional Budget Office is submitted as required by clause (2)(l)(3)(C) of House Rule XI.

U.S. CONGRESS,
CONGRESSIONAL BUDGET OFFICE,
Washington, DC, August 7, 1990.

Hon. JOHN CONYERS, Jr.,
Chairman, Committee on Government Operations, House of Representatives, Washington, DC.

DEAR MR. CHAIRMAN: The Congressional Budget Office has estimated the cost for H.J. Res. 226, a joint resolution to establish a national policy on permanent papers as ordered reported by the House Committee on Government Operations on August 2, 1990.

While this bill does not mandate a federal program, it does require the Librarian of Congress, the Archivist, and the Public Printer to jointly monitor the implementation of such a national policy. The Library of Congress estimates that only one employee will be required to work on the project intermittently. Therefore, the cost of monitoring the implementation of this policy would be insignificant.

If a policy of using high quality acid free paper and permanent paper is adoped, it would result in a cost to the federal government due to the higher cost of permanent paper. The extent of this cost cannot be estimated at this time because CBO does not know how many government agencies would wish to use this paper or the volume of use.

If you wish further details on this estimate, we will be pleased to provide them.

Sincerely,

ROBERT D. REISCHAUER, *Director.*

COMMITTEE ESTIMATE OF COST

The Committee agrees with the Congressional Budget Office that the cost of monitoring the implementation of the policy by the Librarian of Congress, the Archivist, and the Public Printer will be insignificant.

The Committee disagrees with CBO's suggestion that the use of acid free permanent papers might result in increased costs to the government. An April 1990 report by the Public Printer stated:

> The [Joint Committee on Printing] and GPO believe that alkaline paper is available in sufficient supply, and at competitive prices, to provide for increased printing of Government documents designated as having enduring value. Many Government publications apparently are already being printed on such paper.

Hearing at 119.

The Committee also expects that the appropriate use of acid free permanent papers will result in savings to the government. For example, the Archivist of the United States testified that the historical papers from the World War II period are becoming fragile and difficult to use as the fiftieth anniversary of that war approaches.

He estimated that the cost of transferring these records to a more stable medium would exceed $71 million dollars. *Hearing* at 30.

The savings will result from avoiding the need for heroic efforts in future years to preserve important documents printed on poor quality paper. No savings are expected in the near future.

INFLATIONARY IMPACT

In accordance with clause (2)(l)(4) of House Rule XI, it is the opinion of the Committee that the provisions of this joint resolution will have no inflationary impact on prices and costs in the operation of the national economy.

OVERSIGHT FINDINGS

The Committee has made no detailed findings or recommendations other than those contained elsewhere in this report.

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